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ABSTRACT

This first part of a comprehensive study designed to provide decision makers with an understanding of the needs and capabilities of occupational education in New England focuses on the number of individuals, especially dropouts, in need of occupational education and training as compared to the capabilities of the various institutions to meet such a need. There are currently 962,000 persons in New England who could benefit from occupational education, including the unemployed, subemployed, and labor force nonparticipants. Annual occupational training opportunities in New England can meet the needs of 376,000 persons, showing that there is a need for increased programmatic efforts. Most jobs require post-secondary training rather than a college degree. Funding for vocational education and job training in New England is inadequate. Improvement and expansion of manpower programs should include the development and piloting of a model delivery system to aid in cooperative regional planning. Numerous tables present the data. (AG)

A Research Report by the
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The Universe of Need for Occupational Education in New England

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New England's job Market—a close look.

Today, over 80 percent of New England's jobs require less than a college degree.

More than 70 percent of New England's jobs require some specific training in high school or beyond.

With manufacturing opportunities beginning to decline, 67 percent of the jobs in the 70's will be in the social, public and personal service occupations.

The importance of occupational training in New England is emphasized when viewed in light of the above statements. This report examines occupational education in New England from the standpoint of the number of individuals in the Region who are in need of such training, and the training opportunities which exist in the Region.

There are 962,000 individuals in New England who could benefit from occupational education in some way. These are people who are unemployed, untrained, or employed in jobs which do not provide enough income to place them and their families above the poverty level.

Annual occupational training opportunities in New England can meet the needs of 376,000 people. This means that there is a gap between the occupational training ongoing in New England and the number of individuals who are in need of such training.

This report seeks to illustrate the need for increased occupational training efforts in New England, and recommends:

- training capabilities be improved and expanded
- full appropriations for planning occupational training programs
- implementation of model delivery systems of occupational education programs to provide a "total" coordinated effort in this area
- coordination between occupational training efforts and industry, to promote training which would satisfy the specific demands of industry in New England

A Research Report by
The New England Resource Center for Occupational Education

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Preface

The New England Resource Center for Occupational Education (NERCOE) was founded and is supported by the New England Regional Commission. The Commission is a Federal-State compact composed of the six New England Governors and a Federal Co-Chairman appointed by the President of the United States.

As a continuing institution, NERCOE is charged with acting as a catalyst to assist occupational educators in developing practical and innovative programs which will support the economic development needs of the New England Region.

This report, *The Universe of Need for Occupational Education in New England*, is the first segment of a comprehensive study designed to provide decision makers with an understanding of the needs and capabilities of occupational education in New England. It focuses on the number of individuals in need of occupational education and training as compared to the capabilities of the various institutions to meet such a need.

A second report will examine the congruence between industrial demand and occupational training programs in the region.

The Universe of Need for Occupational Education in New England

Introduction

The economy of a country, region or state consists of a mixture of physical capital and human resources. Human resources are a product of education, occupational training and health care. Investments in these three primary human resource areas are important to the growth of the economy of a region or nation.

The purposes of this report are: 1) to specify the manpower training and retraining needs of the New England Region (in relation to the number of individuals in need of training or retraining in the region); 2) to examine the availability of training or retraining programs from the standpoint of vocational education, training, manpower programs, and apprentice-private organizations; 3) to cite the discrepancies between the availability of training and the needs of the people; 4) to emphasize the need for increased funding of occupational training efforts in view of an existing gap between the availability of training and the needs of the people.

Methodology

Areas of unemployment, hidden-unemployment, manpower programs, vocational education, private training schools and apprentice programs in the New England Region are examined in this report.

The methodology used in this study was to assume parameters of one year, 1970, and gather as much relevant data as was available that year. Where specific data was not available for 1970, data from 1969 or 1971 was substituted and will be so indicated in the source citations.

The Universe of Need for Occupational Education

Occupational education in New England can be viewed from the standpoint that certain individuals need training in order to make them a viable part of New England's economic growth. It is recognized that while nearly all individuals in the world of work could use more occupational education to better upgrade their positions, there exists in New England certain individuals who could immediately benefit from some type of occupational training or retraining. These persons generally are found in the following categories:

The unemployed: those who are not working, but are considered to be looking for work.

The hidden-unemployed: those who are not working, but have given up looking for work and are not reflected in normal unemployment figures.

The working poor: those who are working, but at an income level placing them below or near the established poverty level.

The unprepared high school graduate: those who graduate from high school, but lack the necessary skills to acquire meaningful employment.

The dropout: those who drop out of education at any level and lack the necessary skills to acquire meaningful employment. This would include both secondary and post-secondary dropouts.

Generally, many persons found in the above categories need services to initially train them in a needed skill or to upgrade the skills they might already possess. Clearly, there are individuals in the categories of unemployed, hidden-unemployed and dropouts who might possess skills, but because of the economic situation cannot find work. While these persons might not seem to be part of the occu-

pational education need in New England, they still might benefit from some type of retraining effort. This effort should enable them to find work in another area.

There will be some overlap between the categories of the unemployed and the dropout/unprepared high school graduate. This overlap will be considered in the computation of the total need for New England.

Table I

Unemployment in New England by State and Region and National Totals, Number and Percent, 1970

Area	*Number of Unemployed Individuals*	*Percent*
U.S.A.	4,088,000	4.9
New England	277,000	4.9
Connecticut	78,000	5.6
Maine	23,000	5.6
Massachusetts	137,000	5.3
New Hampshire	10,000	3.4
Rhode Island	21,000	5.2
Vermont	8,000	4.4

Source: U.S. Statistical Abstract, 1971, p. 215, Tables 336 and 337.

The Unemployed

New England has experienced shifts in its economy over the past ten years which have affected the unemployment situation to a great extent. Manufacturing has declined, the service industries have expanded and more technical training and professional skills are required in jobs which did not exist ten years ago.

As shown in Table I, New England had 277,000 individuals who were unemployed in 1970. The national rate of unemployment was 4.9 percent and the New England rate of unemployment was also 4.9 percent.

The above table illustrates the number of persons who were unemployed in New England. The number 277,000 represents those individuals who were in the labor force and not working for any number of reasons. Some were seeking work but were unsuccessful because they were not skilled or they possessed a skill which was not in demand. Others were skilled, but for varied reasons — seasonal employment, did not wish to work (the hard-core unemployed) — they remain unemployed.

This study will not assume that all of the 277,000 unemployed persons in New England should be classed in need of occupational training. Government figures indicate that over 30 percent of the unemployed are so classed by choice and not by employment or lack of training circumstances.

This study will assume that 35 percent of the unemployed in New England do not need training or retraining. This would amount to a total of 100,000 individuals thereby leaving 177,000 still in need of some type of occupational training or retraining.

The unemployed component — 177,000

The Hidden-Unemployed

The hidden-unemployed component of New England's occupational training need is composed of persons who have given up actively seeking work.[1] Therefore, they are not counted as part of the labor force. There are varied reasons why these individuals have given up looking for work. Some of the main reasons are:

- they cannot find work in the field in which they have been trained, or they cannot find work in a location which is suitable to them
- they attempt to find work and cannot find any employment at all
- they do not have enough education or training
- they think that their age will prohibit them from being hired
- they think there are no jobs available
- they have some type of personal handicap which would prevent an employer from hiring them

Table II

Estimated Hidden – Unemployed in the United States, New England Region and States, 1970

Area	*Estimated Number of Hidden – Unemployed**
U.S.A.	640,000
New England	39,000
Connecticut	10,000
Maine	3,500
Massachusetts	18,500
New Hampshire	2,500
Rhode Island	3,500
Vermont	1,000

Source: U.S. Department of Labor, Special Labor Force Report 129, USDOL, Employment and Unemployment, 1970.

*The rate used to estimate New England's hidden-unemployment was that of 6 percent in accordance with percent of national work force which New England possesses.

Table II shows the figures for hidden-unemployment in the New England Region for 1970. New England, by conservative estimate has 39,000 hidden-unemployed. These individuals, for reasons already stated, could use some form of occupational training. If they possessed skills which were in demand on the labor market, they would, in most cases, actively seek work.

The hidden-unemployed component — 39,000 individuals

[1]**Note:** Actively seeking a job connotes registration with employment security or the collection of unemployment compensation. Some persons are migrant workers and are also considered in this category.

The Working Poor

Another group in the universe of need for occupational training and upgrading in New England is the working poor. This group is comprised of persons who are working part-time or full-time, but at a less than poverty wage.

In 1969 it was estimated by the Labor Department that there were 7,670,000 persons nationwide in the category of working poor.[2] New England has six percent of the nation's population; therefore it could be conservatively estimated that New England also has six percent of the nation's working poor.

Thus, it is estimated that 460,200 persons in New England can be categorized as working poor.[3] Although these individuals are working, many do not have the opportunities to better their employment situation. The reasons for this are: a lack of skills; a lack of education; or other barriers such as a handicap or ethnic background.

The working near-poor, a subset of the working poor, should also be considered in need of upgrading or skill training. These are individuals who earn more money than the poor, but not enough to allow them to take an active part in increasing their own skills.

Figures compiled from reports by the State Departments of Employment Security indicate that the near-poor population in New England approaches 200,000.[4]

The working poor and the near working poor comprise a unique component of New England's universe of need for occupational training. Although these individuals are working, they could benefit from occupational training, or retraining because through this their opportunities for upward mobility and better paying jobs are increased.[5]

The working poor —	460,200
The near working poor —	200,000

The working poor component — 660,200

[2]U.S. Department of Labor, Program Memorandum for Category I, FY 1969-73, Special Study No. 1, *Levels and Types of Federal Manpower Services required with the Universe of Need.*

[3]Such poverty levels are established by the Federal Government. In 1970 the levels of poverty were 1 person = $2000; 2 = $2600; 3 = $3200; 4 = $3800. These figures have since been increased in 1972—a family of 4 = $4000.

[4]New England State Departments of Employment Security—*Manpower Planning Reviews.* **Note:** Actual figures indicate more than 300,000 near poverty individuals, but for reasons stated below, the figure was adjusted to 200,000. In some instances, individuals who are working at a near poverty level cannot be trained for better jobs due to handicaps or a lack of desire on their part. As was noted by one Employment Security Labor Economist, the employability situation of some persons in the near poverty level is not questioned, merely the degree to which they can be employed.

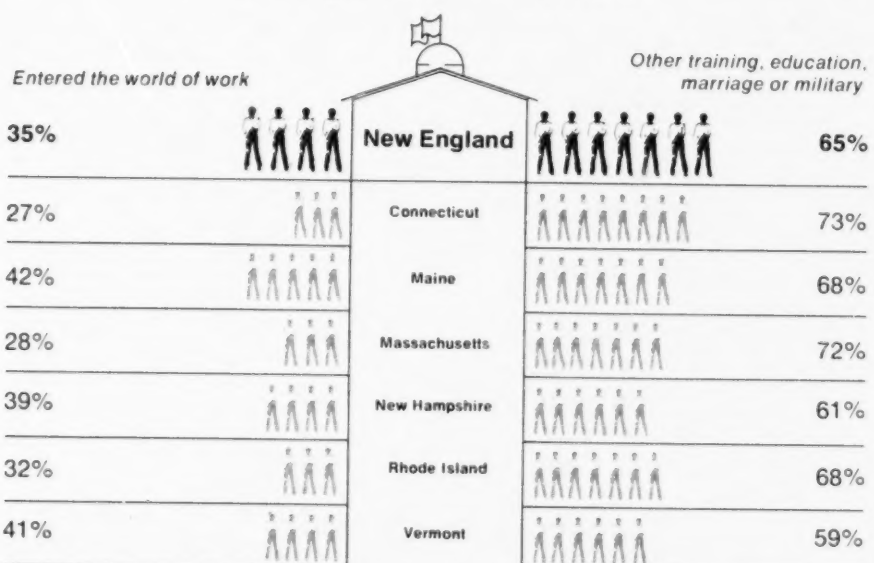
[5]**Note:** Although many working poor and near poor report wages earned from one job, some are multiple job holders. This fact is recognized in this study, but it is difficult to quantify to an extent of usefulness for the study.

The Unprepared High School Graduate

What is happening to the high school graduates of New England? Where do they go after graduation? Many high school graduates are not prepared to enter the world of work when they finish their secondary education. Without necessary preparation, students who seek employment are at a disadvantage. In most instances, some kind of occupational education would better prepare them for the world of work.[6]

Table III

What New England Students Did After High School Graduation In 1970



Source: Figures provided by New England State Education Departments.
NOTE: Some are estimates. Others are given as a result of studies by the departments.

As Table III shows, approximately 35% of the high school graduates in New England attempt to enter the world of work. Eleven percent of that 35 percent are usually unsuccessful and are unemployed.

However, not all students who graduate from secondary schools can be classed as being unprepared for work. Some have attended vocational education programs and have the occupational skills necessary to enter the world of work.

In 1970 there were *137,380* public high school graduates.[7] An estimated 35 percent of these high school graduates sought employment. Thus, approximately *48,000* students entered the labor force. (See Table IV under Number of Secondary Graduates Seeking Employment.)

[6]**Note:** This study recognizes the fact that some students who graduate or who dropout have been counted in the unemployed component. For this reason a percentage will be dropped from the student components to eliminate possible double counting of individuals.

[7]U.S. Department of Commerce. *Statistical Abstract of the U.S.*, 1971, p. 124.

Table IV

Vocational Education Graduates and Those Available for Employment in New England, 1970

A. Total H.S. Graduates	*B. Sec. Voc. Ed. Graduates*	*C. Voc Ed. Graduates Available for Employment*	*D. Number of Sec. Graduates Seeking Employment*	*E. Number of Sec. Graduates in Need of Training*
137,380	50,500	28,000	48,000	20,000

Source: Vocational Education Reports, 1970 – Six New England States.

The above table shows that of the 50,500 secondary vocational education graduates only 28,000 were ready and available to enter some kind of employment. The remainder of the secondary vocation education graduates went on to the military, higher education, entered other programs of training, or for other reasons did not seek employment.

Table IV also emphasizes, in Column E, the number of high school graduates entering the labor force with no occupational training, other than skills taught in part-time jobs. (Most of which is not skill training for a career.) There are an estimated *20,000* graduating students who fall into this category. These 20,000 graduates need some skill training to better prepare them to enter the world of work. However, if 20,000 students need training and the training averages two years in duration, there would then be a total of *40,000* students in training. (11th graders would be included.)

The unprepared high school graduate — 40,000

The Dropout Student

Those students who do not complete high school or college are another component in the universe of need for occupational training. The term "dropout" will be used to refer to this group. The secondary dropouts and the higher education dropouts will be examined separately because of the differences which exist between them.

Secondary High School Dropouts

The student who drops out of high school is seldom prepared to enter the world of work. However, not all high school dropouts seek employment. Many males enter the armed services, and many females drop out because they marry. Those dropouts who become part of the labor force are faced with the problem of little or no skill training. National unemployment figures for 1970 show that dropouts (all ages) have an unemployment rate of 21.5 percent.

The dropout rate in New England has been estimated to be approximately 4 percent of the students in grades 9 – 12 (ages 15 – 19).[8] Four percent of the en-

Secondary school dropouts — 32,000 individuals

[8]**Note:** This estimate was derived from information provided by the State Offices of Education. In certain cases, dropout rates are computed differently, but the percentages, after examination, can be applied to New England estimates based on the general information provided.

rollment in those grades for 1970 in New England amounts to 32,000 students.[9]

Higher Education Dropouts

Students who complete secondary schools but fail to complete higher education (2 year or 4 year) programs are also placed in the dropout category. According to the Department of Labor only one in four students who start a four-year curriculum finishes. Half of the first-year students in college drop out and one-third of the remaining half drop out after or during their second year. National figures show that of the males who drop out of college, 9 out of 10 end up in the labor market, and that 7 out of 10 women who left college were also in the labor market.[10]

Table V

Estimated First Time Degree-Credit Enrollments in Institutions of Higher Education in New England, Fall, 1970

Area	*First Time Enrollment*
New England	124,000
Connecticut	26,000
Maine	6,000
Massachusetts	67,000
New Hampshire	7,000
Rhode Island	12,000
Vermont	6,000

Source: USOE, Digest of Educational Statistics, 1970.

Table V shows that in 1970 124,000 students enrolled, for the first time, in New England higher education institutions. By applying national dropout rates to this first time enrollment figure, another 62,000 individuals can be added to the dropout figure.[11] Of this 62,000 an average of 8 out of 10 dropouts will enter the labor force. This means 50,000 dropouts will need some sort of occupational training.

Adjusted higher education dropout — 30,000[12]

[9]**Note:** The figure 32,000 represents the annual dropout rate for New England. It is recognized that students who drop out might return to school.

[10]U.S. Department of Labor, Monthly Labor Review, May 1971, *High School Graduates and Dropouts*, p. 33.

[11]**Note:** Only first time enrollment dropout figures will be mentioned in this study. Those persons who drop out later in college will not be counted, thus making the college dropout figure conservative. In reality, the other college dropouts have need of occupational training just as other dropouts in earlier years of education.

[12]Adjusted for immigration of out-of-state students—the New England Board of Higher Education estimates 20,000 of these dropouts come from outside of New England. Approximately 40% of students in colleges in New England are from out of state.

The Universe of Need For Occupational Education And Training In New England

The universe of need for occupational training and education in the New England Region is determined in two steps. First, by adding the components of need together; second, by subtracting an overlap percent for the areas where such an overlap might occur.

Table VI

The Universe of Need for Occupational Education in New England, 1970

Source of Need	*Number Involved*
*Unemployed	161,000
Hidden-unemployed	39,000
Working Poor	660,200
High School Graduate Unprepared for Work	40,000
Dropout = High School + Graduate	62,000
Total	**962,000**

*The overlap percentage is computed by examining the rate of unemployment among the high school graduates (12%) and dropouts (22%) and subtracting the respective amounts from total unemployment. Another overlap area, but one that is difficult to determine, is the possibility of some graduates and dropouts being found in the hidden-unemployment and working poor components. The reader should be aware that such an overlap might occur.

The importance of providing training to meet the occupational education needs of 962,000 individuals is seen when compared to the size of the labor forces in several New England states. The number of individuals in need of training is larger than the total labor forces of Rhode Island, Maine and New Hampshire combined.[13]

[13]U.S. Department of Commerce, Statistical Abstract, shows the total of those three states to be 908,000 in 1970.

The Occupational Training Capability in New England

The resources for training are important to the economy of the New England Region. If such resources cannot meet the occupational education needs, the human capital of the region will diminish in importance to the economy.

Measures taken to help meet these needs are usually found in the form of (1) Vocational Education Programs or (2) Manpower Programs. Other measures such as private training schools and apprentice programs, offered by private industry, also address the needs of occupational training in New England.

If vocational education programs, manpower programs, and other measures of training continue at their present levels of operation, will the occupational training needs of the region be met? This section answers that question from the standpoint of training opportunities available as compared to the number of individuals in need of training.

Vocational Education in New England

The vocational education effort in New England has been on the upswing. Enrollments have increased and, likewise, the number of graduating students from such programs have increased.[14]

Table VII

Vocational Education Enrollments in New England, FY 1970*

Area	*Secondary*	*Post-Secondary*	*Adult*	*Other Programs**	*Total*
New England	202,551	21,984	62,164	38,384	325,083
Connecticut	56,551	6,437	28,530	22,357	113,561
Maine	13,000	1,596	4,501	684	19,781
Massachusetts	83,992	11,399	18,282	7,619	121,292
New Hampshire	30,590	1,599	3,582	1,278	37,051
Rhode Island	10,566	815	4,623	1,686	18,732
Vermont	8,166	138	2,644	408	14,666

Source: State Vocational Education Reports, 1970.
(Other programs denote disadvantaged, handicapped, special needs.)

Table VII shows the number of enrollments in vocational education in New England in 1970.[15] However, the number of students completing vocational education programs comes closer to the actual number of students annually receiving enough training to find work. Those who graduate from a vocational-technical program have usually completed a one or two year training program which provides competency in a skill.

[14]1969 New England Vocational Education Reports compared with 1970 reports.

[15]**Note:** The enrollment numbers shown in Table V are for USOE approved programs. Other vocational education programs exist in the New England region which are locally funded and are not counted in USOE reports. The reader should be aware that such programs do exist and they do provide occupational education.

Table VIII

Secondary and Post-Secondary Completions in Vocational Education in New England, 1970

Area	Number of Completions	Number Available For Placement	Number on to Higher Education	Number to Other Areas
New England	57,868	33,557	9,193	15,118
Connecticut	13,314	7,587	3,937	1,790
Maine	4,255	2,296	727	1,232
Massachusetts	35,467	19,815	3,636	12,016
New Hampshire	1,810	1,063	346	401
Rhode Island	1,287	791	194	302
Vermont	1,736	1,105	350	281

Source: State Vocational Education Reports, 1971
*Other areas include women who get married, men who enter armed services, and other such fields.

Table VIII, above, shows the number of completions in secondary and post-secondary vocational education programs for New England in 1970. Completion figures for the adult and special needs categories were unavailable. These two categories do have a training input, and this must be considered when computing vocational education training opportunities in New England.[16]

The table also presents the number of students available for placement in the world of work, and the number of vocational education graduates who continued their educations.

As mentioned previously, a total picture of annual completions from vocational-technical education programs must include all categories (secondary, post-secondary, adult, and special needs). The number of annual completions will serve as an indicator to show the level of meaningful occupational training in New England. The number of individuals completing occupational training in the categories of adult and special needs is, out of necessity, an estimated figure.[17]

The number of individuals who completed vocational education programs in 1970 can be computed in the following manner:

number of secondary and post-secondary completions	+	estimated number of adult & special need completions	=	estimated total number of completions
58,000		18,000		76,000

Annually, government-approved vocational education programs in New England have an approximate completion rate of 76,000 individuals. These persons have

[16]**Note:** U.S. Office of Education, The Vocational-Technical Education Report for 1968 mentioned that only 20 percent of adults enrolled in vocational education programs received training for first time entry into a job opportunity.

[17]**Note:** The adult and special need figure is computed by applying the completion percentage of the secondary and post-secondary programs (18%) to the number of individuals involved in the adult and special need programs. It should be realized that this figure is only an estimate. Figures for 1971 indicate a much lower completion rate in these categories.

had quality vocational education training which provides them with the necessary skills to find employment.

Number annually trained for the labor market by vocational education in New England — 76,000 persons

As mentioned before, the vocational education programs in the region serve over 325,000 individuals by giving them some training in occupational areas. The figure of 76,000 persons emphasizes the annual output of vocational education. Every class in vocational education provides the student with some occupational capability. This is true even if the student is enrolled for only one semester. This report suggests that each vocational education class does give the student some occupational exposure. But only by completing a vocational education program will the student have the job skill competency needed for the world of work.[18]

Manpower Program Training

As with vocational education, the number of individuals enrolled in manpower programs does not provide an accurate picture of the training opportunities available. Most manpower occupational training programs are less than a year in duration. This means that during any specific year, one training slot in a manpower program might be occupied by more than one individual. (As one person finishes the program, another can take his place.) It is therefore best to examine the total number of individuals served in one year to accurately determine the training opportunities available.

Table IX

Number of Individuals Served by Selected Manpower Programs During 1970

National Figures and New England Figures

Program	*National*	*Estimated N.E.**
NAB-JOBS	160,000	8,000
CEP	115,000	5,800
WIN	175,000	8,700
Voc. Rehab.	505,000	25,200
MDTA Inst. + OJT	290,000	14,500
Job-Corps	70,000	3,500
NYC	490,000	12,250
Other	230,000	11,500
TOTALS:	2,035,000	89,450

Source: Special Analysis, Budget of U.S., FY 1970, Table K-1, p. 135.
*Estimated using 5% of U.S. totals which is New England's percent of the total U.S. enrollments in such programs in past years.

[18]**Note:** It is important to re-emphasize the fact that the vocational education programs mentioned in this report are approved. As mentioned previously, some locally supported programs also produce graduates.

The above table estimates that New England manpower programs served approximately 90,000 individuals during 1970. Many of the individuals in these manpower programs received some type of occupational training.[19]

Individuals served by manpower programs — 90,00

Other Occupational Training Efforts

A complete picture of regional training efforts cannot be presented without mentioning other available occupational training programs. The main thrusts of the occupational training efforts fall in the areas of manpower and vocational education programs. But other efforts such as private vocational schools, apprenticeship programs, employer training (on-the-job), and the armed forces also provide individuals with some occupational training.

Private Vocational Schools

Private vocational-technical schools prepare students for employment in many areas. The three main types of schools are: business, trade and technical; cosmetology; and barber schools. In 1966, private vocational schools of all types enrolled an estimated 1,500,000 persons. Many of these schools offer certificates upon completion of the required courses; others offer refresher courses in a variety of subject areas.[20]

There has been no systematic method in the past years for reporting enrollments and completions of private vocational-technical schools (currently, a study is underway by the National Center for Education Statistics to document the enrollees of such institutions). Therefore, complete statistics are not available for all states in New England.[21]

If it is assumed that New England has 6 percent of the national enrollment, this would amount to an estimated 120,000 enrollees in such programs in the region.[22]

Private vocational-technical schools — 120,000 persons

Apprenticeship Programs

Apprenticeship training combines theory and on-the-job instruction to prepare journeymen in skilled crafts. There were approximately 17,000 registered apprentices in 1970. This figure was provided by the Regional Office of the

[19]**Note:** As with vocational education programs, there are some local manpower programs which are not directly federal funded. These programs also have some training capabilities, but on a lower volume than those mentioned above.

[20]A. Harvey Belitsky, *Private Vocational Schools and Their Students*, (Schenckman Publishing Company, Inc., Cambridge, Mass.), 1969.

[21]**Note:** Connecticut, in a comprehensive study, recorded over 16,000 enrollments and 13,000 completions in 1971.

[22]The estimate was calculated by adding 500,000 individuals to the 1966 figure of 1,500,000 and applying 6% (the percent of New England's population of the national population).

Department of Labor in New England. The impact of apprentice programs on the New England training effort is difficult to identify because of the long training period involved in many apprenticeship programs.

Apprenticeship programs — 17,000 individuals

The above mentioned apprentice programs are federally registered programs. Other such programs exist whose sponsors have chosen not to register. According to the Department of Labor, no information is available on the number of such programs or of individuals involved.[23]

Employer Training

Employer training can be of formal or informal nature. Generally, workers receive on-the-job formal training in conjunction with classroom work. (Apprentice programs fall into this category.) A 1963 Department of Labor study showed that only a small proportion of workers had learned their skills in such programs.[24]

In most instances, training is informal and takes place mainly in the work environment. Most workers, according to the 1963 study, had "just picked up" their current skills informally on the job.

According to the Department of Labor, current statistics on completion of employer training programs are not available.[25] Furthermore, the feasibility of collecting such data raises some question.

Such programs when quantified have an effect on the New England occupational training need. Therefore, the impact of private employer training should be considered when identifying training opportunities in New England. But, because of the difficulty of even as estimate, no number will be attached to this section. However, a factor will be added to the "other" category in the computation of the total training capabilities in New England.

The Armed Services

The armed forces offers some skill training to help young men obtain civilian jobs upon separation. Even though many men who return home have adequate skills for employment, some do not. The unemployment rate among Vietnam veterans is 9.9 percent nationwide and New England has an estimated 328,000 Vietnam veterans in civilian life.[26]

Although many returning veterans have received some skill training, not all of them can apply such training to civilian employment opportunities. Figures for returning vets point to a higher than normal unemployment rate (see above). This is due in part to the economy and to their lack of skill preparation.

According to the Veterans' Administration, it is difficult to quantify the number of returning veterans who have some sort of skill training. This study adds in

[23]U.S. Department of Labor, *Occupational Manpower Training Programs*, p. 19.

[24]*Formal Occupational Training of Adult Workers — Its Extent, Nature, and Use*, (Washington, U.S. Dept. of Labor, December, 1964, Manpower/Automation Research Monograph No. 2).

[25]*U.S. Department of Labor, Occupational Manpower Training Programs*, 1970, p. 19.

[26]U.S. Veterans' Administration, *Data on Vietnam Era Veterans*, December 1971.

a factor to compensate for this type of training which returning New England veterans might have received. This factor is only applied to individuals from New England who enter the service and are found in the New England universe of need for occupational training.

The Total Occupational Education Training Capability of New England

The occupational education and training capabilities in New England have been examined to determine the extent of such services. The areas of occupational education presented were: vocational education programs; manpower programs; apprenticeship programs; private vocational schools; employer training efforts; and the armed forces.

The estimated occupational education and training capabilities in New England are as follows:

Table X

Sources of Occupational Education and Trainiag in New England

Source	*Number Served*
Vocational education	76,000
Manpower programs	90,000
Private Voc-Tech Schools	120,000
Apprenticeship Programs	17,000
Other*	73,000
TOTAL	**376,000**

*An estimated 73,000 individuals were involved in training programs in private employment or armed forces situations. There were no accurate figures given for these categories – based on information from the Veterans' Administration and Department of Labor, Apprenticeship Division.

Current Expenditures for Occupational Training in New England

This section of the study will examine the current expenditures for occupational training programs in the New England Region. Expenditures for such training are an indication of the capabilities of the region with respect to occupational programs. Areas such as vocational education and manpower program expenditures will be presented.

Vocational Education Expenditures

Total expenditures for vocational education in New England for 1970 were $144,613,000. Of this amount, $133,424,000 were funds appropriated for vocational education by state and local sources. The table below (Table XI) shows the region breakdown of funds and funding sources.

Table XI

Appropriated Funds for Vocational Education New England Region, 1970

Area	Funding Sources and Amounts Federal	State/Local	Total
New England	11,188,000	133,424,000	144,613,000
Connecticut	2,755,000	20,835,000	23,090,000
Maine	1,818,000	4,649,000	6,467,000
Massachusetts	4,197,000	96,373,000	100,570,000
New Hampshire	858,000	3,061,000	3,919,000
Rhode Island	1,019,000	4,091,000	5,111,000
Vermont	1,041,000	4,415,000	5,456,000

Source: Vocational Education State Reports, 1970.
Note: These are areas most likely to funding increase or decrease due to their more public nature.

Expenditures for vocational education in New England have increased from $83,451,000 in 1969 to $144,613,000 in 1970. The majority of this $61,162,000 increase came from state and local sources; only $1,385,000 of the $61,162,000 was Federal money.

Earlier sections in this report stated that only a certain number students involved in vocational education are receiving skill training of a quantity that will be useful in finding jobs. However, all vocational education programs provide a firm base for occupational and career exposure situations and therefore are important.

Manpower Program Funds

The federal effort to support the various components of manpower training in New England represents an annual expenditure of $64,930,000. These dollars serve approximately 90,000 individuals in manpower training programs.

Table XII

Federal Obligations for Work and Training Program Administered by the Department of Labor, New England Region, 1970

(Dollars (Thousands)

Program

Area	MDTA	WIN	NYC	Operation Mainstream	Public Services Careers	Jobs	CEP	Totals
U.S.	$315,931	$78,780	$308,050	$51,043	$87,067	$162,152	$187,301	$1,190,324
N.E.	18,620	5,243	11,812	1,467	2,633	8,080	17,075	64,930

Source: U.S. Department of Labor, Manpower Report of the President, 1971.

Table XII shows the breakdowns of federally obligated monies to manpower training programs in the New England Region for 1970. These monies are the main supportive agents for the above mentioned manpower programs.

Other Training Program Funds

The funding situation for other occupational education and training efforts in New England is nebulous. Very little federal money is expended on behalf of any of these efforts other than in the Armed Services.

Apprenticeship programs, although registered with the Department of Labor, are not required to report how much money is spent in training. Those private companies involved in such training are spending considerable amounts.

Private vocational education schools rely primarily on tuition funds for their existences. Information regarding the funding of such programs was unavailable.

It is difficult to ascribe a specific dollar amount to other employer or informal training. Companies do not report such data to any central system.[27]

The Armed Forces is expanding its occupational training services to meet the growing needs of the departing veterans. Project transition has recently been instituted to fill the gap between service and civilian work life. Though no dollar amount is attached, the funding of such efforts in the occupational education areas are increasing.

[27]U.S. Department of Labor, *Occupational Manpower Training Programs*, p. 19.

Summary, Conclusions, and Recomendations

This study examines the need for occupational education and training in New England. It does so from the standpoint of: the number of individuals in need of some type of occupational education or training; the occupational education capabilities of the region; and the general financing of current program efforts.

The number of individuals in need of some type of occupational education or training in New England has been estimated to be 962,000. These are individuals who could benefit from occupational training to help them be better prepared for the world of work.

The occupational education and training capabilities of the New England Region are serving approximately 376,000 individuals.[28]

Funds for occupational education and training in New England are increasing. More money is being spent in this area than ever before. Total State, local and national funds in New England are $204,300,000. This figure does not include private and some State and local funds.

Conclusions

In view of this study the following conclusions were reached:

(1) There is a large number of individuals in the New England Region (962,000) who could benefit from some type of occupational education or skill training. These are individuals who are unemployed, untrained, uneducated, and/or underemployed, undertrained to a degree that inhibits them from becoming a viable part of New England's human capital.

(2) The occupational education and training capabilities of the New England Region have expanded over the years. But the expansion is not enough to match the training needs of the Region.

(3) Vocational education in New England is providing occupational training and exposure to over 325,000 persons. In 1970, an estimated 76,000 individuals completed vocational programs which provided them with marketable skills in the world of work.

(4) Manpower programs in New England are training an estimated 90,000 individuals.

(5) Other efforts such as private vocational schools, apprenticeship programs, employer training and the armed forces have an impact on the training situation in New England. (However, that impact is difficult to quantify, except for apprentice programs.)

(6) Funding for occupational education and training in New England is not increasing enough. In order to close the gap between the number of individuals in need of training and the training opportunities available to them, more funds are needed.

Recommendations

This study, in view of the conclusions presented, makes the following recommendations:

(1) In view of the large number of individuals in New England who are in need of some type of occupational education, the training capabilities of the Region should be improved and expanded. This should include increases in the

[28]**Note:** It should be remembered that this figure counts on 76,000 vocational education graduates, not the total 325,000 enrollees in vocational education programs. The 325,000 enrollees are, however, garnering meaningful career and occupational exposure through the vocational education efforts.

numbers and types of vocational education and manpower programs, as well as increases in other forms of occupational training.

(2) In order to adequately plan occupational education and training in New England, the region should receive (a) the full appropriations of Section 103(a)(1) of the amendments to the Vocational Education Act of 1963 which authorizes the transfer of $5 million to the Secretary of Labor to finance national, regional, state and local studies and projections of manpower needs; (b) that the planning funds for the New England states include a priority for manpower planning which will provide annual reviews of the adequacy of vocational school curricula and capacity, as well as assessment of other manpower programs in the region; (c) that special attention be given in the planning process to close articulation of secondary vocational with post-secondary technical programs so that curricula at the secondary level gives not only job entry skills, but also entry requirements to specialized technical courses; (d) that means be developed to provide services to dropouts at whatever age to vocational opportunities.

(3) A model delivery system should be developed and piloted that would include vocational education, manpower and private programs for occupational education. Such a system would provide an approach to a cooperative occupational education and training effort. This would eliminate duplication of programs and provide more training opportunities for individuals.

(4) In the design of new occupational training programs, special attention should be given to planning for programs which meet the skill needs of New England. We know that today over 80% of New England's jobs require less than a college degree. Yet more than 70% will require some specific training in high school or beyond. Specific emphasis ought to be placed in the area of social, public, and personal service occupations. It has been reported that with manufacturing opportunities beginning to decline, 67% of the new job openings for New England will be in these areas.

Appendix

The appendix contains a list of documents and data sources used in this report. These sources could be used by occupational educators in studies which might be directly related to specific areas of their interest. The documents are classified by source or author, and according to origin, i.e., Federal Government, State Government, local or private publications.

Federal Documents

Census Materials, 1970
National Center for Educational Statistics, "Digest of Educational Statistics, 1970"
National Center for Educational Statistics, "Projections of Educational Statistics to 1980"
National Center for Educational Statistics, "Residence and Migration of College Students"
Special Analysis: Budget of the United States, 1973
The Manpower Report of the President, 1971
U.S. Department of Labor, "Employment and Unemployment, 1970"
U.S. Department of Labor, "Employment of High School Students and Dropouts," 1970
U.S. Department of Labor, "Occupational Manpower Training Programs," Bulletin #1701
U.S. Department of Labor, "Occupational Outlook Handbook," 1971
U.S. Department of Labor, "U.S. Manpower in the 1970's, Opportunity and Challenge"
U.S. Department of Commerce, The Statistical Abstract of the United States, 1971 edition
U.S. Office of Education, "Annual Reports of Vocational Technical Education, 1970"
Veterans Administration, "Data on Vietnam Era Veterans, 1971"

State Documents

Annual Manpower Planning Reports—published by the State Departments of Employment Security in the New England Region
Vocational Education Reports, 1971—published by the State Departments of Education or Vocational Education in the New England Region

Private

Belitsky, A. Harvey, *Private Vocational Schools and Their Students,* Schenckman Publishing Company, Inc., Cambridge, Mass., 1969